

REMARKS

Claims 1-18 are pending in this application. Claims 12-15, 17 and 18 are presently withdrawn from consideration. Claims 1-11 and 16 are rejected.

Applicants appreciate the courtesies shown to Applicant's representative by Examiner Tentoni in the November 21, 2008 interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

In view of the following remarks, Applicants respectfully request reconsideration and allowance of claims 1-18.

Response To Restriction

Claims 1-18 were subject to a restriction requirement. Applicants hereby affirm the election of Group I, claims 1-11 and 16, with traverse.

It is respectfully submitted that the subject matter of all claims is sufficiently related that a thorough search for the subject matter of any one Group of claims would encompass a search for the subject matter of the remaining claims. Thus, it is respectfully submitted that the search and examination of the entire application could be made without serious burden. See MPEP §803 in which it is stated that "if the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions." It is respectfully submitted that this policy should apply in the present application in order to avoid unnecessary delay and expense to Applicants and duplicative examination by the Patent Office.

Thus, withdrawal of the restriction requirement is respectfully requested.

35 U.S.C. §103(a) Rejections

Claims 1-11 and 16 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Okubo (JP 11-061550) in view of Hutter (U.S. Patent No. 6,551,545). Applicants respectfully traverse this rejection.

Okubo describes a two-step method for cooling a melt-spun fiber. Okubo further describes the use of an air-blowing device 2 which blows cooling air onto the melt-spun fiber. See the Abstract and paragraphs [0009]-[0011] of Okubo. In Okubo, step 1 involves a horizontal stream of cooling air blowing on the fiber, and the second step involves a vertical stream of cooling air blowing parallel to the bundle.

The Patent Office alleges that Okubo thus describes all of the features of the method for spinning a multifilament thread of claim 1, except for a second cooling zone wherein filaments are cooled through self-suction of a cooling medium. However, Okubo does not describe the method of claim 1 for at least the following reasons.

First, the method of claim 1 requires "...in the first cooling zone, the gaseous cooling medium flow is directed in such a way that it flows through the filament bundle transversely, and the cooling medium leaves the filament bundle substantially completely on a side opposite an inflow side...".

As discussed during the interview, Okubo does not describe, in any way, that the cooling medium substantially completely leaves a filament bundle on a side opposite an inflow side. To the contrary, Okubo illustrates that the cooling flow travels along the length of the fibers, and does not substantially completely leave the filament bundle on a side opposite an inflow side. As shown in Figs. 2 and 4 of Okubo, the cooling air flow (arrows) travels along the path of the fiber Y. See Figs. 2 and 4 of Okubo, included below. Okubo

further states that "a down draft forms along the transit direction of the of a line of thread."

See paragraph 11 of Okubo.

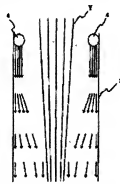


Fig. 2 of Okubo

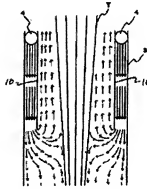


Fig. 4 of Okubo

Clearly, the first cooling medium is not substantially completely leaving the filament bundle on a side opposite the inflow side.

Further, as discussed during the interview, claim 1 requires a two-step cooling process involving a first active cooling step and a second passive cooling step. The first active cooling step involves blowing gaseous cooling medium through the filament bundle transversely. The second passive cooling step involves self suction.

This is different from Okubo where active blowing is used in both steps of Okubo. Thus, because Okubo uses a same cooling medium in both steps, it does not matter if the cooling medium in the first step does not substantially completely leave the filament bundle because the cooling medium just travels down, along the fiber, to the second cooling zone where additional cooling medium is introduced. As a result, one would not have substantially completely removed the cooling medium in the first step of Okubo.

However, claim 1 requires a passive cooling second step in which the filament bundle is cooled through self-suction of the gaseous cooling medium surrounding the filament bundle. It is thus essential that the cooling medium leaves the filament bundle substantially completely before the second cooling zone, as required by claim 1. See also paragraph [0010] of the specification.

Thus, for at least the above reasons, Okubo does not describe, or provide any reason or rationale for one of ordinary skill in the art to have come to, the two-step cooling method of claim 1, wherein in a first active step of a two-step cooling, the cooling medium leaves the filament bundle substantially completely on a side opposite the inflow side.

Hutter does not remedy the deficiencies of Okubo. Hutter describes a method for melt-spinning a multi-filament yarn from a thermoplastic material. The filaments are pre-cooled in a cooling zone and then the filament bundle is advanced by the action of a coolant stream in the direction of the advancing yarn and then undergoes further cooling. See the Abstract.

As shown in Fig. 1 of Hutter below, cooling shaft 5 indicates cooling air in the direction of the arrows. As illustrated in Fig. 1 of Hutter, the cooling arrows in cooling shaft 5 show that the cooling medium is at least partially drawn downstream, as the lower arrows indicate a downward flow toward the second cooling zone 7. Thus, Hutter also does not describe that the cooling medium substantially completely leaves the filament bundle on a side opposite an inflow side as recited in claim 1.

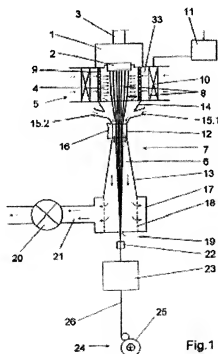


Fig. 1

Fig. 1 of Hutter

Further, the Patent Office admits that Okubo does not describe a second cooling zone wherein filaments are cooled through self-suction of a cooling medium. The Patent Office alleges that Hutter remedies this deficiency of Okubo.

However, the second cooling zone of Hutter is a cooling shaft 7, where a vacuum generator 20 generates a vacuum. Due to the vacuum effect and a self-suction effect, an air stream is sucked from the outside through air intakes 33 into the cooling zone 4. See col. 5, lines 55-59 of Hutter. Thus, the application of a vacuum to the second cooling zone illustrates that even more cooling medium from the first cooling shaft 5 would be sucked down into cooling zone 7.

Thus, it is clear that in the Hutter design the cooling medium does not substantially completely leave the filament bundle on a side opposite an inflow side, as recited in claim 1. Hutter cannot remedy the deficiencies of Okubo in this regard.

Additionally, as the Examiner noted during the interview, even if Hutter described a passive self-suction effect in the second step, it would have defeated the purpose of Okubo if one were to have thus attempted to have incorporated Hutter's step into Okubo's process. As discussed, because Okubo uses active cooling in both steps, there is no reason or rationale for one of ordinary skill in the art to have replaced Okubo's required active cooling step with a passive cooling step.

The combination of Okubo and Hutter thus does not describe, in any way, all of the features of claim 1. Okubo and Hutter, individually or in combination, would at best provide a method in which cooling medium from a first cooling zone is present in a filament bundle in a second cooling zone. Neither Okubo nor Hutter provide any reason or rationale for one of ordinary skill in the art to have come to all of the features of claim 1.

For at least these reasons, withdrawal of the rejection is respectfully requested.

Rejoinder

Upon allowance of claims 1-11 and 16, applicant respectfully requests rejoinder of claims 12-15, 17 and 18. See MPEP §821.04.

Conclusion

In view of the foregoing remarks, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-18 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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